

Kindly enter the following Amendment:

IN THE CLAIMS

Please add the following new claims:

a' --7. A process for producing a fixed ring of an antifriction bearing subjected to an environment involving vibration or impact, said fixed ring being made of a steel material having an amount of austenite therein, said process comprising the steps of:

(a) subjecting the steel material of said fixed ring to a hardening heating treatment to reduce the amount of austenite in the steel material to a residual amount, and

(b) following said step (a), subjecting the steel material of said fixed ring to a tempering treatment to reduce the residual austenite content in said fixed ring to an amount up to 8%, so as to prevent plastic deformation of a raceway in said fixed ring caused by decomposition of said residual austenite under said raceway.

--8. The process for producing a fixed ring of an antifriction bearing as defined in claim 7, wherein said step (b) is carried out at a temperature of 250°C to 380° C.

--9. The process for producing a fixed ring of an antifriction bearing as defined in claim 7, wherein said step (b), the residual austenite content is reduced to an amount up to 6%.

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--13. A process for producing a fixed ring of an antifriction bearing subjected to an environment involving vibration or impact, said fixed ring being made of a steel material having an amount of austenite therein, said process comprising the steps of:

(a) subjecting the steel material of said fixed ring to a hardening heating treatment to reduce the amount of austenite in the steel material to a residual amount;

(b) following said step (a), subjecting the steel material of said fixed ring to a sub zero treatment to further reduce the residual amount of austenite in the steel material; and

(c) following said step (b), subjecting the steel material of said fixed ring to a tempering treatment to reduce the residual austenite content in said fixed ring to an amount up to 8%, so as to prevent plastic deformation of a raceway in the fixed ring caused by decomposition of said residual austenite under said raceway.

--14. The process for producing a fixed ring of an antifriction bearing as defined in claim 13, wherein said step (c), the residual austenite content is reduced to an amount up to 6%.

--15. The process for producing a fixed ring of an antifriction bearing as defined in claim 13, wherein said step (c), the residual austenite content is reduced to an amount up to 3%.

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cont.

--16. The process for producing a fixed ring of an antifriction bearing as defined in claim 13, wherein said material comprises SAE 5120.

--17. The process for producing a fixed ring of an antifriction bearing as defined in claim 13, wherein said material comprises JIS•SUJ2.

--18. An antifriction bearing lubricated by grease and comprising a plurality of bearing rings, at least one of said bearing rings being a fixed ring comprising a steel material containing up to 8% residual austenite.

--19. The antifriction bearing as defined in claim 18, wherein the amount of residual austenite in said fixed ring is up to 6%.

--20. The antifriction bearing as defined in claim 18, wherein the amount of residual austenite in said fixed ring is up to 3%.

--21. The antifriction bearing as defined in claim 18, wherein the steel material of said fixed ring comprises SAE 5120.

--22. The antifriction bearing as defined in claim 18, wherein the steel material of said fixed ring comprises JIS•SUJ2.

a' cont.

--23. A antifriction bearing device comprising:

an inner member and an outer member rotatable relative to each other;

an antifriction bearing disposed between said inner member and said outer member, said antifriction bearing being lubricated by grease and comprising a plurality of bearing rings, at least one of said bearing rings being a fixed ring attached to said fixed member, said fixed ring comprising a steel material containing up to 8% residual austenite, so as to prevent plastic deformation of a raceway in the fixed ring caused by decomposition of said residual austenite under said raceway and reduce rolling friction so as to reduce temperature rise inside the bearing;

a fixed member; and

a rotational member supported by said fixed member via said antifriction bearing.

--24. The antifriction bearing device of claim 24, wherein said antifriction bearing is subjected to an environment involving by vibration or impact.

--25. An antifriction bearing device comprising:

a fixed housing;

separately disposed antifriction bearings, each of said antifriction bearings being lubricated by grease and comprising a plurality of bearing rings, at least one of said bearing rings being a fixed ring attached to a fixed member, said fixed ring comprising a steel material containing up to 8% residual austenite, so as to prevent plastic deformation of a raceway in the fixed ring caused by decomposition of said residual austenite under said raceway and reduce rolling friction so as to reduce temperature rise inside the bearing; and a rotary shaft supported by said fixed housing via said antifriction bearings.